LISTING OF CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over the link to the receiver, and the transmitter is configured to transmit auxiliary data to the receiver by modulating DC disparity of a channel of the communication link.

2. (original) The system of claim 1, wherein the transmitter is configured to transmit a stream of encoded data words over the channel, the words determine the video data and include bits indicative of accumulated DC disparity of the stream, and said bits determine the auxiliary data.

3. (original) The system of claim 2, wherein the receiver is configured to determine a sequence of differences between successive values of the accumulated DC disparity, thereby determining the auxiliary data.

4. (canceled)

5. (original) The system of claim 1, wherein a sequence of instantaneous values of the DC disparity determines the auxiliary data.

6. (original) The system of claim 1, wherein a sequence of differences between successive values of the DC disparity determines the auxiliary data.

7. (original) The system of claim 1, wherein the auxiliary data are digital audio data.

8. (original) The system of claim 1, wherein the auxiliary data determine at least one control signal.

9. (original) The system of claim 1, wherein the auxiliary data are indicative of configuration information.

10. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over the link to the receiver, at least one of the transmitter and the receiver is configured to transmit a stream of data words determining auxiliary data over the link to the other one of the transmitter and the receiver, and a data structure of each of at least a subset of the words is indicative of DC disparity, and wherein the auxiliary data are determined by one of a sequence of values of the DC disparity and a sequence of differences between successive ones of the values of the DC disparity.

11. (original) The system of claim 10, wherein the transmitter is configured to transmit the stream of data words over a channel of the link, the data words of the stream are encoded data words that determine the video data and have an accumulated DC disparity, each said data structure has at least one bit indicative of a value of the accumulated DC disparity, and a sequence of differences between successive values of the accumulated DC disparity determines the auxiliary data.

12. (original) The system of claim 10, wherein the transmitter is configured to transmit the stream of encoded data words over a channel of the link, the data words of the stream are encoded data words that determine the video data and have an accumulated DC disparity, each said data structure has at least one bit indicative of a value of the accumulated DC disparity, and a sequence of instantaneous values of the accumulated DC disparity determines the auxiliary data.

13. (original) The system of claim 10, wherein a first accumulated DC disparity value followed by a second accumulated DC disparity value for two sequentially occurring ones of the words indicates an auxiliary data bit having a first logical value if the absolute value of the second accumulated DC disparity value is greater than the absolute value of the first accumulated DC disparity value, and an auxiliary data bit having a second logical value if the absolute value of the first accumulated DC disparity value is greater than the absolute value of the second accumulated DC disparity value.

14. (original) The system of claim 10, wherein the values of the DC disparity include values in at least two distinct ranges of positive DC disparities and at least two distinct ranges of negative DC disparities, and wherein a sequence of differences between successive values in one of the ranges of positive DC disparities determines values of the auxiliary data but differences between successive values in another one of the ranges of positive DC disparities do not determine values of the auxiliary data.

15. (previously presented) A method for sending data over a TMDS-like communication link, where "TMDS" denotes "transition minimized differential signaling," comprising the steps of:

(a) transmitting a stream of data words over at least one channel of the link thereby modulating DC disparity of the channel, such that the DC disparity is indicative of auxiliary data;

(b) recovering the auxiliary data from the transmitted stream of data words.

16. (previously presented) The method of claim 15, wherein the data words are encoded words indicative of video data, and also including the step of:

(c) decoding the transmitted stream of data words to recover the video data.

17. (original) The method of claim 15, wherein the data words include disparity bits indicative of accumulated DC disparity of the stream, and wherein step (b) includes the step of recovering the auxiliary data from the disparity bits of the transmitted stream of data words.

18. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

an input for receiving auxiliary data;

an output configured to be coupled to a channel of the link; and

circuitry coupled to the input and configured for generating an output signal in response to the auxiliary data, and asserting the output signal to the output for transmission over the channel, wherein the output signal modulates DC disparity of the channel and is indicative of the auxiliary data.

19. (original) The transmitter of claim 18, wherein the transmitter also has a video input for receiving video data, and output signal is also indicative of the video data.

20. (original) The transmitter of claim 19, wherein the circuitry is coupled to the video input and configured to generate encoded video data indicative of the video data, the output signal comprises a stream of sequentially transmitted data words, each of the words is indicative of a quantity of the encoded video data, and each of at least some of the words is indicative of accumulated DC disparity of the stream.

21. (original) The transmitter of claim 18, wherein the transmitter is implemented as an integrated circuit.

22. (original) The transmitter of claim 18, wherein the auxiliary data are audio data.

23. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over the link to the receiver, at least one of the transmitter and the receiver is configured to transmit a stream of encoded words over the link to the other one of

the transmitter and the receiver, each of the words is indicative of auxiliary data and includes a data structure, each of the words having nonzero DC disparity is encoded in accordance with one of a first encoding operation and a second encoding operation, and each of the words having zero DC disparity is encoded in accordance with the first encoding operation,

and wherein the data structure of each of the words having nonzero DC disparity is indicative of whether said each of the words has been encoded in accordance with the first encoding operation or the second encoding operation, and the data structure of each of the words having zero DC disparity is indicative of at least one bit of the auxiliary data.

24. (original) The system of claim 23, wherein the transmitter is configured to transmit the stream of encoded words over the link to the receiver, each of the encoded words is a TMDS-encoded word that comprises N bits and determines a word of the video data, and the data structure of said each of the encoded words is an M-bit subset of the N bits, where N is an integer and M is an integer less than N.

25. (original) The system of claim 24, wherein N is equal to ten and M is equal to one.

26. (original) The system of claim 23, wherein the auxiliary data are digital audio data.

27. (original) The system of claim 23, wherein the auxiliary data determine at least one control signal.

28. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

an input for receiving auxiliary data;

an output configured to be coupled to a channel of the link; and

circuitry coupled to the input and configured for generating an output signal in response to the auxiliary data and asserting the output signal to the output for transmission over the channel, wherein the output signal is indicative of a stream of encoded data words, wherein each of the words includes a data structure, each of the words having nonzero DC

disparity is encoded in accordance with one of a first encoding operation and a second encoding operation, each of the words having zero DC disparity is encoded in accordance with the first encoding operation, the data structure of each of the words having nonzero DC disparity is indicative of whether said each of the words has been encoded in accordance with the first encoding operation or the second encoding operation, and the data structure of each of the words having zero DC disparity is indicative of at least some of the auxiliary data.

29. (previously presented) A method for sending data over a TMDS-like communication link, where "TMDS" denotes "transition minimized differential signaling," comprising the steps of:

(a) transmitting a stream of encoded data words over at least one channel of the link, wherein each of the words is indicative of auxiliary data and includes a data structure, each of the words having nonzero DC disparity is encoded in accordance with one of a first encoding operation and a second encoding operation, each of the words having zero DC disparity is encoded in accordance with the first encoding operation, the data structure of each of the words having nonzero DC disparity is indicative of whether said each of the words has been encoded in accordance with the first encoding operation or the second encoding operation, and the data structure of each of the words having zero DC disparity is indicative of at least one bit of the auxiliary data; and

(b) recovering the auxiliary data from the transmitted stream of encoded data words.

30. (original) The method of claim 29, wherein the encoded words are also indicative of video data, and also including the step of:

(c) decoding the transmitted stream of encoded data words to recover the video data.

31. (currently amended) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over the link to the receiver, wherein the video data are transmitted as a stream of binary data words that determine an analog auxiliary signal as well as the video

data, wherein each of the binary data words is an encoded word that has been encoded in accordance with a first encoding operation when accumulated DC disparity of the stream exceeds a positive threshold, and has been encoded in accordance with a second encoding operation when the accumulated DC disparity of the stream exceeds a negative threshold, and instantaneous values of the stream's accumulated DC disparity determine the analog auxiliary signal.

32. (original) The system of claim 31, wherein the analog auxiliary signal is an analog audio signal.

33. (canceled)

34. (currently amended) The system of claim ~~33~~31, wherein the transmitter is configured to change dynamically at least one of the positive threshold and the negative threshold, so that the accumulated DC disparity has an envelope of disparity wander, and said envelope of disparity wander determines the analog auxiliary signal.

35. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

an output configured to be coupled to a channel of the link; and

circuitry coupled to the first input and to the video input and configured for generating an output signal in response to the auxiliary data and asserting the output signal to the output for transmission over the channel, wherein the output signal is indicative of a stream of binary data words that determine an analog auxiliary signal as well as the video data, wherein the analog auxiliary signal is indicative of the auxiliary data.

36. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over the link to the receiver, the link includes at least one multi-purpose line, the transmitter and the receiver are operable in a first mode in which one of the transmitter and the receiver transmits a first signal indicative of auxiliary data over the at least one multi-purpose line to the other one of the transmitter and the receiver, and the transmitter and the receiver are operable in a second mode in which one of the transmitter and the receiver transmits a second signal over the at least one multi-purpose line to the other one of the transmitter and the receiver.

37. (original) The system of claim 36, wherein the at least one multi-purpose line is at least one downstream device status line, the second mode is a monitoring mode in which the transmitter monitors the at least one downstream device status line to determine whether a downstream device is coupled to the receiver, and the first mode is an auxiliary data transmission mode in which the transmitter transmits the first signal over the at least one downstream status line to the receiver.

38. (original) The system of claim 37, wherein the transmitter and the receiver operate simultaneously in the first mode and the second mode, the transmitter transmits the first signal over the at least one downstream status line to the receiver while operating in the first mode, and the transmitter also monitors the at least one downstream device status line while operating in the first mode to determine whether a downstream device is coupled to the receiver.

39. (original) The system of claim 36 wherein the at least one multi-purpose line is at least one power line, the second mode is a power supply mode in which the transmitter provides DC power to the receiver over the at least one power line, the link also comprises at least one digital video channel, and the first mode is a data transmission mode in which the transmitter transmits digital video data to the receiver over the digital video channel and at least one of the transmitter and the receiver transmits the first signal over the at least one power line to the other one of the transmitter and the receiver.

40. (original) The system of claim 39, wherein the transmitter and the receiver operate simultaneously in the first mode and the second mode, the transmitter is configured to send modulated DC power to the receiver over the at least one power line while operating in the first mode, and the receiver is configured to extract the auxiliary data from the modulated DC power while operating in the first mode.

41. (original) The system of claim 36, wherein the auxiliary data are digital audio data.

42. (previously presented) A transmitter for use in data transmission over a TMDS-like link, wherein "TMDS" denotes "transition minimized differential signaling," the link includes at least one downstream device status line, said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

a first output configured to be coupled to a channel of the link;

a second output configured to be coupled to the downstream device status line;

circuitry, coupled to the first input and to the video input, and configured to generate a video signal indicative of at least some of the video data and to assert the video signal to the first output for transmission over the channel, and to generate a second output signal indicative of the auxiliary data and to assert the second output signal to the second output for transmission over the downstream device status line channel; and

additional circuitry coupled to the second output and operable in a monitoring mode in which said additional circuitry monitors the downstream device status line and to determine whether a downstream device is coupled to the receiver.

43. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data over a video channel of the link to the receiver, wherein the link includes an additional channel for bidirectional communication between the transmitter and

at least one of the receiver and a device associated with the receiver, and wherein at least one of the transmitter and the receiver is operable in a mode in which it transmits auxiliary data over the additional channel to the other one of the transmitter and the receiver.

44. (original) The system of claim 43, wherein the additional channel is a serial bus configured to allow bidirectional communication between the transmitter and a monitor associated with the receiver, including transmission from the receiver to the transmitter of monitor identification data specifying characteristics of the monitor.

45. (original) The system of claim 44, wherein the TMDS-like communication link is a Digital Video Interface, the additional channel is a Display Data Channel including power and ground lines, and the auxiliary data are transmitted over at least one line of the power and ground lines.

46. (original) The system of claim 43, wherein the auxiliary data are audio data.

47. (previously presented) A transmitter for use in data transmission over a TMDS-like link, wherein "TMDS" denotes "transition minimized differential signaling," the link has a first channel for communication between the transmitter and at least one of a receiver and a device associated with the receiver, the link also has at least one video channel, said communication includes transmission from said at least one of the receiver and the device to the transmitter of device identification data specifying characteristics of said device, said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

a first output configured to be coupled to the video channel;

a second output configured to be coupled to the first channel; and

circuitry, coupled to the first input, the video input, the first output, and the second output, and configured to generate a video signal indicative of at least some of the video data and assert the video signal to the first output for transmission over the video channel, and to generate a second output signal indicative of the auxiliary data and assert the second output signal to the second output for transmission over the first channel, wherein the circuitry is

also configured to recover any of the device identification data received at said second output.

48. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least two video channels, the transmitter is operable in a first mode in which it transmits video data to the receiver over a first subset of the video channels but not a second subset of the video channels, the transmitter is operable in another mode in which it transmits video data to the receiver over all of the video channels, and the transmitter is configured to transmit auxiliary data to the receiver over the second subset of the video channels during the first mode.

49. (original) The system of claim 48, wherein the TMDS-like communication link is a Digital Video Interface comprising a first TMDS link and a second TMDS link, the first TMDS link includes the first subset of the video channels, and the second TMDS link includes the second subset of the video channels.

50. (original) The system of claim 48, wherein the auxiliary data are digital audio data.

51. (previously presented) A transmitter for use in data transmission over a TMDS-like link having at least a first video channel and a second video channel, wherein "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

a first output configured to be coupled to the first video channel;

a second output configured to be coupled to the second video channel; and

circuitry, coupled to the first input and to the video input, and configured to operate in a selected one of a first mode and a second mode, wherein the circuitry in the first mode generates a video signal and a second video signal each indicative of at least some of the

video data, asserts the video signal to the first output for transmission over the first video channel, and asserts the second video signal to the second output for transmission over the second video channel, and

wherein the circuitry in the second mode generates a video signal indicative of at least some of the video data and an auxiliary data signal indicative of at least some of the auxiliary data, asserts the video signal to the first output for transmission over the first video channel, and asserts the auxiliary data signal to the second output for transmission over the second video channel.

52. (canceled)

53. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data to the receiver over the link, the transmitter is configured to transmit encoded words indicative of auxiliary data to the receiver over the link, at least one bit of each of the encoded words determines at least one auxiliary data bit, and the remaining bits of said each of the encoded words determine a word of the video data, wherein the remaining bits of said each of the encoded words determine all bits of an in-band, TMDS-encoded word other than a transition control bit, the TMDS-encoded word has a transition control bit slot, and said at least one bit of each of the encoded words is a single auxiliary data bit transmitted in the transition control bit slot.

54. (original) The system of claim 53, wherein the transmitter is also configured to transmit out-of-band, TMDS-encoded words to the receiver, and wherein each of the out-of-band, TMDS-encoded words has a transition control bit slot containing a transition control bit, and the receiver is configured to process received words including said encoded words and said out-of-band, TMDS-encoded words, and

wherein the receiver is configured to identify, as an auxiliary data bit or a transition control bit, each bit in the transition control slot of each of the received words as a result of analyzing a short past history of said each of the received words.

55. (original) The system of claim 53, wherein the receiver is configured to ignore a bit having a first binary value, in the transition control slot of one of the received words, in response to identifying a bit having a second binary value in the transition control slot each of the two previously received ones of the received words.

56. (canceled)

57. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least one video channel, the transmitter is configured to transmit video data and auxiliary data to the receiver over the video channel, the video data are determined by a first set of code words, the auxiliary data are determined by a second set of code words, and none of the code words in the second set is a member of the first set.

58. (original) The system of claim 57, wherein each of the code words in the first set is an in-band TMDS-encoded word, and each of the code words in the second set is an out-of-band TMDS-encoded word.

59. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a first input for receiving auxiliary data;

a video input for receiving video data;

an output configured to be coupled to a channel of the link; and

circuitry, coupled to the first input and to the video input, and configured to generate code words indicative of the auxiliary data and the video data and assert the code words to the output for transmission over the channel, wherein the video data are determined by a first set of the code words, the auxiliary data are determined by a second set of the code words, and none of the code words in the second set is a member of the first set.

60. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least one digital video channel and at least one analog video channel, the transmitter is configured to transmit digital video data to the receiver over the digital video channel, and at least one of the transmitter and the receiver is configured to operate in a mode in which it transmits auxiliary data to the other of the transmitter and the receiver over the analog video channel.

61. (original) The system of claim 60, wherein the auxiliary data are digital audio data, and the transmitter is configured to operate in a mode in which said transmitter transmits the audio data to the receiver over the analog video channel while transmitting the digital video data to the receiver over the digital video channel.

62. (original) The system of claim 60, wherein the transmitter is configured to transmit an analog video signal over the analog video channel, and the transmitter is configured to transmit the auxiliary data over said analog video channel during blanking intervals of the analog video signal.

63. (previously presented) A transmitter for use in data transmission over a TMDS-like link having at least one digital video channel and at least one analog video channel, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

a first output configured to be coupled to the digital video channel;

a second output configured to be coupled to the analog video channel; and

circuitry, coupled to the first input and to the video input, and configured to operate in a selected one of a first mode and a second mode, wherein in the first mode, the circuitry generates an analog video signal indicative of at least some of the video data, and asserts the analog video signal to the second output for transmission over the analog video channel, and

wherein in the second mode, the circuitry generates an auxiliary data signal indicative of at least some of the auxiliary data and a video signal indicative of at least some of the video data, asserts the video signal to the first output for transmission over the digital video channel, and asserts the auxiliary data signal to the second output for transmission over the analog video channel.

64. (previously presented) A transmitter for use in data transmission over a TMDS-like link having at least one power line for providing DC power from the transmitter to another device, and at least one video channel, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a first input for receiving auxiliary data;

at least one video input for receiving video data;

a first output configured to be coupled to the video channel;

a second output configured to be coupled to the power line; and

circuitry, coupled to the first input and to the video input, and configured to operate in a mode in which it generates a video signal indicative of at least some of the video data and an auxiliary data signal indicative of at least some of the auxiliary data, asserts the video signal to the first output for transmission over the video channel, and asserts the auxiliary data signal to the second output for transmission over the power line.

65. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

at least one auxiliary data input for receiving auxiliary data;

at least one video input for receiving video data;

at least one first channel output configured to be coupled to a first channel of the link;

at least one second channel output configured to be coupled to a second channel of the link;

at least one third channel output configured to be coupled to a third channel of the link;

circuitry coupled between the video input and the first channel output, and configured to assert a first signal indicative of at least some of the video data to the first channel output in response to the video data;

circuitry coupled between the second channel output and at least one of said auxiliary data input, and configured to assert a second signal indicative of a first stream of the auxiliary data to the second channel output in response to the auxiliary data; and

circuitry coupled between at least one of said auxiliary data input and at least one of the first channel output and the third channel output, and configured to assert a third signal indicative of at least one of a second stream of the auxiliary data and the first stream of auxiliary data to said at least one of the first channel output and the third channel output in response to the auxiliary data.

66. (original) The transmitter of claim 65, wherein the auxiliary data are audio data.

67. (original) The transmitter of claim 65, wherein the first stream of auxiliary data is a stream of digital audio data, the second stream of auxiliary data determines a clock for the digital audio data, the third signal is indicative of the second stream of the auxiliary data, and the transmitter is configured to assert the third signal over the third channel output.

68. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link has multiple data transmission channels, the transmitter is configured to transmit video data to the receiver over at least a first channel of the link, and at least one of the transmitter and the receiver is configured to transmit a first stream of auxiliary data over a second channel of the link to the other one of the transmitter and the receiver, and at least one of the transmitter and the

receiver is configured to transmit a second stream of auxiliary data over one of the first channel of the link and a third channel of the link to the other one of the transmitter and the receiver.

69. (original) The system of claim 68, wherein the auxiliary data are audio data.

70. (original) The system of claim 68, wherein the first stream of auxiliary data comprises audio data and the second stream of auxiliary data is data useful for negotiating operational parameters of at least one channel of the link.

71. (original) The system of claim 68, wherein the first stream of auxiliary data is a stream of digital audio data, the second stream of auxiliary data determines a clock for the stream of digital audio data, the transmitter is configured to transmit the stream of digital audio data over the second channel of the link to the receiver, and the transmitter is configured to transmit the second stream of auxiliary data over the third channel of the link to the receiver.

72. (original) The system of claim 68, wherein the first stream of auxiliary data is a stream of digital audio data, the second stream of auxiliary data is a second stream of digital audio data, the transmitter is configured to transmit the stream of digital audio data over the second channel of the link to the receiver, and the transmitter is configured to transmit the second stream of digital audio data over the third channel of the link to the receiver.

73. (original) The system of claim 72, wherein the TMDS-like communication link is a Digital Video Interface link, the second channel is a video clock channel of the Digital Video Interface link and the third channel is a downstream device status line of the Digital Video Interface link.

74. (original) The system of claim 68, wherein the transmitter is configured to transmit the first stream of auxiliary data over the second channel of the link to the receiver, and the receiver is configured to transmit the second stream of auxiliary data over the third channel of the link to the transmitter.

75. (original) The system of claim 68, wherein the transmitter is configured to transmit the first stream of auxiliary data over the second channel of the link to the receiver, and the receiver is configured to transmit the second stream of auxiliary data over the first channel of the link to the transmitter.

76. (original) The system of claim 68, wherein the TMDS-like communication link is a Digital Video Interface link.

77. (original) The system of claim 76, the transmitter is configured to transmit the first stream of auxiliary data over the second channel of the link to the receiver, the transmitter is configured to transmit the second stream of auxiliary data over the first channel of the link to the receiver, the first channel is video channel of a first TMDS-link of the Digital Video Interface link, and the second channel is a video channel of a second TMDS-like link of the Digital Video Interface link.

78. (original) The system of claim 68, wherein the transmitter is configured to transmit the first stream of auxiliary data to the receiver over the second channel of the link, and the transmitter is configured to transmit the second stream of auxiliary data to the receiver over the first channel of the link at times when the transmitter does not transmit the video data over said first channel of the link.

79. (original) The system of claim 68, wherein the transmitter is configured to transmit the first stream of auxiliary data over the second channel while the system employs the second channel for an additional function.

80. (original) The system of claim 79, wherein the transmitter is configured to transmit over the second channel a first signal having no frequency components outside a frequency range and at least one signal having no frequency components in said frequency range, and said first signal is indicative of the first stream of auxiliary data.

81. (original) The system of claim 68, wherein the transmitter has a first operating mode in which it transmits the first stream of auxiliary data over the second channel, and the transmitter has another operating mode in which it does not transmit the first stream of auxiliary data over the second channel.

82. (canceled)

83. (canceled)

84. (canceled)

85. (canceled)

86. (previously presented) A method for sending data over a TMDS-like communication link having multiple data transmission channels, where "TMDS" denotes "transition minimized differential signaling," comprising the steps of:

(a) transmitting video data over at least a first channel of the link;

(b) transmitting a first stream of auxiliary data over a second channel of the link; and

(c) transmitting a second stream of auxiliary data over one of the first channel of the link and a third channel of the link, wherein step (a) includes the step of transmitting the video data in a forward direction over the link, step (b) includes the step of transmitting the first stream of auxiliary data in the forward direction over the link, step (c) includes the step of transmitting the second stream of auxiliary data in a reverse direction over the link.

87. (original) The method of claim 86, wherein step (c) is performed while step (b) is being performed.

88. (original) The method of claim 86, wherein step (c) is performed after step (b).

89. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link has multiple data transmission channels, the transmitter is configured to transmit video data to the receiver over at least a first channel of the link, and at least one of the transmitter and the receiver is configured to transmit a portion of a stream of auxiliary data over a second channel of the link to the other one of the transmitter and the receiver, and at least one of the transmitter and the receiver is configured to transmit another portion of the stream of auxiliary data over one of the first channel of the link and a third channel of the link to the other one of the transmitter and the receiver.

90. (original) The system of claim 89, wherein the auxiliary data are audio data.

91. (canceled)

92. (canceled)

93. (canceled)

94. (canceled)

95. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link has multiple data transmission channels, the transmitter is configured to transmit video data to the receiver over at least a first channel of the link, the transmitter and the receiver are configured to operate in a first mode in which one of the transmitter and the receiver asserts a signal indicative of auxiliary data over a second channel of the link to the other one of the transmitter and the receiver, and the transmitter and the receiver are configured to operate in a second mode in which said one of the transmitter and the receiver asserts a second signal over the second channel to the other one of the transmitter and the receiver.

96. (original) The system of claim 95, wherein the receiver asserts the signal indicative of auxiliary data to the transmitter over the second channel during the first mode, the receiver asserts said second signal to the transmitter over the second channel during the second mode, and said second signal is indicative of presence of a device coupled to the receiver.

97. (original) The system of claim 95, wherein the transmitter asserts the signal indicative of auxiliary data to the receiver over the second channel during the first mode, the transmitter asserts said second signal to the receiver over the second channel during the second mode, and said second signal provides power to at least one of the receiver and a device coupled to the receiver.

98. (original) The system of claim 97, wherein the second mode is a sleep mode and the auxiliary data are audio data.

99. (previously presented) A receiver for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said receiver including:

an input for receiving auxiliary data;

a video input configured to be coupled to a video channel of the link;

an output configured to be coupled to another channel of the link;

circuitry, coupled to the output, and configured to operate in a first mode in which it asserts a signal indicative of the auxiliary data to the output, and to operate in a second mode in which it asserts to the output a signal indicative of presence of a device coupled to the receiver.

100. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

at least one video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

a video output configured to be coupled to a first channel of the link;

a second output configured to be coupled to a second channel of the link;

circuitry, coupled between the video input and the video output and configured to assert a signal indicative of at least some of the video data to the video output in response to the video data; and

circuitry, coupled between the second output and the auxiliary data input and configured to operate in a first mode in which it asserts a signal indicative of the auxiliary data to the second output in response to the auxiliary data, and to operate in a second mode in which it asserts to the output a signal capable of providing power to a device coupled to the second channel of the link.

101. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link has multiple data transmission channels, the transmitter is configured to transmit video data to the receiver over at least a first channel of the link, and at least one of the transmitter and the receiver is configured to transmit auxiliary data over a second channel of the link, to the other one of the transmitter and the receiver, while at least one of the transmitter and the receiver asserts a signal over the second channel.

102. (original) The system of claim 101, wherein the transmitter is configured to transmit a first signal indicative of the auxiliary data over the second channel while said at least one of the transmitter and the receiver transmits a second signal over the second channel, wherein the first signal has no frequency components outside a frequency range and the second signal has no frequency components in said frequency range.

103. (original) The system of claim 101, wherein the receiver is configured to transmit a first signal indicative of the auxiliary data over the second channel while said at least one of the transmitter and the receiver transmits a second signal over the second

channel, wherein the first signal has no frequency components outside a frequency range and the second signal has no frequency components in said frequency range.

104. (original) The system of claim 101, wherein the transmitter is configured to transmit a first signal indicative of the auxiliary data over the second channel while said at least one of the transmitter and the receiver transmits a second signal over the second channel, wherein the first signal has an amplitude that varies within a first amplitude range, and the second signal has an amplitude that varies between a first value and one or more additional values, wherein the difference between the first value and each of said additional values is greater than the difference between any two amplitudes in the first amplitude range.

105. (original) The system of claim 101, wherein the receiver is configured to transmit a first signal indicative of the auxiliary data over the second channel while said at least one of the transmitter and the receiver transmits a second signal over the second channel, wherein the first signal has an amplitude that varies within a first amplitude range, and the second signal has an amplitude that varies between a first value and one or more additional values, wherein the difference between the first value and each of said additional values is greater than the difference between any two amplitudes in the first amplitude range.

106. (previously presented) A communication system, including:

a transmitter;

a receiver; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least one video channel, the transmitter is configured to transmit data to the receiver over the link during data transmission periods separated by blanking intervals, wherein the data transmission periods include first periods each having duration within a first range and second periods each having duration within a second range distinct from the first range, the transmitter is configured to transmit the video data to the receiver over the video channel only during the first periods and to transmit auxiliary data to the receiver over the video channel only during the second periods, the receiver is configured to recognize each of the second periods and operate in an auxiliary data reception mode during each of the second periods,

and the receiver is configured to recognize each of the first periods and operate in a video data reception mode during each of the first periods.

107. (original) The system of claim 106, wherein each of the first periods has duration greater than a first duration and each of the second periods has duration not greater than the first duration.

108. (original) The system of claim 106, wherein the video data and the auxiliary data are determined by code words of a first code word set, and the transmitter is configured to transmit code words of a second code word set only during the blanking intervals, wherein no member of the first code words set is a member of the first code word set.

109. (original) The system of claim 108, wherein each code word of the first code word set is an in-band TMDS-encoded word, and each code word of the second code word set is an out-of-band TMDS-encoded word.

110. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

at least one video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

an output configured to be coupled to a first channel of the link;

circuitry, coupled between the video input and the output and configured to assert a signal indicative of the video data and the auxiliary data to the output during data transmission periods separated by blanking intervals, wherein the data transmission periods include first periods each having duration within a first range and second periods each having duration within a second range distinct from the first range, wherein the signal is indicative of the video data only during the first periods and said signal is indicative of the auxiliary data only during the second periods.

111. (previously presented) A receiver for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said receiver including:

a video input configured to be coupled to a channel of the link; and

circuitry, coupled to the video input and configured to receive a signal indicative of video data and auxiliary data transmitted to said video input during data transmission periods separated by blanking intervals, wherein the data transmission periods include first periods each having duration within a first range and second periods each having duration within a second range distinct from the first range, wherein the circuitry is also configured to recognize each of the second periods and operate in an auxiliary data reception mode during each of said second periods, and to recognize each of the first periods and operate in a video data reception mode during each of the first periods.

112. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link includes at least one conductor pair between the transmitter and the receiver, wherein at least one of the transmitter and the receiver is configured to transmit a differential signal to the other of the transmitter and the receiver over the conductor pair, and said at least one of the transmitter and the receiver is configured to transmit a signal indicative of auxiliary data to the other of the transmitter and the receiver over the conductor pair by common mode modulation of said conductor pair.

113. (original) The system of claim 112, wherein the auxiliary data are digital audio data.

114. (original) The system of claim 112, wherein the differential signal is indicative of digital video data.

115. (original) The system of claim 112, wherein the differential signal is a control signal, and said one of the transmitter and the receiver is configured to transmit said signal indicative of the auxiliary data over the conductor pair by modulating the common mode level of said control signal.

116. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link includes at least a first conductor pair and a second conductor pair between the transmitter and the receiver, wherein at least one of the transmitter and the receiver is configured to transmit a differential signal to the other of the transmitter and the receiver over the first conductor pair, at least one of the transmitter and the receiver is configured to transmit a second differential signal to the other of the transmitter and the receiver over the second conductor pair, and at least one of the transmitter and the receiver is configured to transmit a third differential signal indicative of auxiliary data to the other of the transmitter and the receiver over the conductor pairs, wherein the third differential signal is generated as a result of common mode modulation of both the first conductor pair and the second conductor pair such that the difference between common mode level of the first conductor pair and common mode level of the second conductor pair determines said third differential signal.

117. (original) The system of claim 116, wherein the transmitter is configured to transmit the first differential signal to the receiver over the first conductor pair, and to transmit the second differential signal to the receiver over the second conductor pair, wherein each of the first differential signal and the second differential signal is indicative of digital video data, and wherein the transmitter is configured to transmit the third differential signal to the receiver by modulating both the common mode level of the differential signal and the common mode level of the second differential signal with respect to each other.

118. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

at least one video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

outputs configured to be coupled to a conductor pair of the link;

circuitry, coupled to the outputs and the auxiliary data input and configured to assert a differential signal indicative of the auxiliary data to the output, such that modulation of the common mode level of the differential signal as a function of time is indicative of said auxiliary data.

119. (original) The transmitter of claim 118, wherein the circuitry is also coupled to the video input and the differential signal is also indicative of at least some of the video data.

120. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

at least one video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

first outputs configured to be coupled to a first conductor pair of the link;

second outputs configured to be coupled to a second conductor pair of the link; and

circuitry, coupled to the first outputs, the second outputs, and the auxiliary data input, and configured to assert a first differential signal having a first common mode level to the first outputs and a second differential signal having a second common mode level to the second outputs, wherein the difference between the first common mode level and the second common mode level determines a third differential signal, and the third differential signal is indicative of the auxiliary data.

121. (original) The transmitter of claim 120, wherein the circuitry is also coupled to each said video input, the first differential signal is indicative of a first portion of the video data, and the second differential signal is indicative of a second portion of the video data.

122. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit TMDS-encoded words indicative of video data and binary auxiliary data to the receiver over the link, wherein each of the encoded words is indicative of a bit of the auxiliary data and at least one bit of the video data, at least some of the TMDS-encoded words are transition minimized words, at least some of the TMDS-encoded words are transition maximized words, and the receiver is configured to identify each of the transition minimized words as a first binary auxiliary data bit and to identify each of the transition maximized words as the complement of the first binary auxiliary data bit.

123. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a video input for receiving video data;

an auxiliary data input for receiving binary auxiliary data;

an output configured to be coupled to a channel of the link; and

circuitry, coupled to the video input, the auxiliary data input, and the output, and configured to assert a stream of TMDS-encoded words to the output, wherein each of the TMDS-encoded words is indicative of a bit of the auxiliary data and at least one bit of the video data, at least some of the TMDS-encoded words are transition minimized words, at least some of the TMDS-encoded words are transition maximized words, each of the transition minimized words is indicative of a first binary auxiliary data bit, and each of the transition maximized words is indicative of the complement of the first binary auxiliary data bit.

124. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the transmitter is configured to transmit video data and a video clock to the receiver over the link, the receiver includes clock recovery circuitry coupled to receive the video clock, the clock recovery circuitry has an operating mode in which it generates a recovered clock in response to the video clock while the transmitter transmits said video clock to the receiver, and the clock recovery circuitry has a locking mode preliminary to the operating mode, wherein during the locking mode the clock recovery circuitry attempts to lock onto any video clock being transmitted by the transmitter to the receiver, the transmitter is configured to transmit the video data over a video channel when the receiver is in the operating mode, and at least one of the transmitter and the receiver is configured to transmit auxiliary data over the video channel to the other of the transmitter and the receiver when the receiver is in the locking mode.

125. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least one video channel, the transmitter is configured to transmit video data and auxiliary data to the receiver over the video channel, the video data are determined by a first set of code words, the auxiliary data are determined by a second set of code words, none of the code words in the second set is a member of the first set, and each of the code words in the second set is determined by a robust encoding algorithm.

126. (original) The system of claim 125, wherein the robust encoding algorithm maps a different cluster of the code words in the second set to each different value of the auxiliary data, each value of the auxiliary data is determined by any one of the code words in one said cluster, and each code word in each said cluster has identical noncritical bits and different values of a critical bit set, wherein each said critical bit set comprises at least one critical bit, and each said critical bit is subject to greater error risk in transmission and recovery than is each said noncritical bit.

127. (original) The system of claim 126, wherein each of the code words in the first set is an in-band TMDS-encoded word, each of the code words in the second set is an out-of-band TMDS-encoded word, and each said critical bit is one of a DC balancing bit and a transition control bit.

128. (original) The system of claim 127, wherein the robust encoding algorithm maps each different one of sixty-four different clusters of the code words in the second set to a different one of sixty-four different values of the auxiliary data.

129. (original) The system of claim 127, wherein the receiver is configured to decode each said out-of-band TMDS-encoded word to determine one of the values of the auxiliary data by ignoring the least significant bit of said out-of-band TMDS-encoded word, toggling all bits of said out-of-band TMDS-encoded word other than said least significant bit and then shifting the toggled bits to the right by one bit if the most significant bit of said out-of-band TMDS-encoded word has a first value, and shifting all bits of said out-of-band TMDS-encoded word other than said least significant bit to the right by one bit without toggling said bits if the most significant bit of said out-of-band TMDS-encoded word has a second value.

130. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

an output configured to be coupled to a channel of the link; and

circuitry, coupled to the video input, the auxiliary data input and the output, and configured to assert a stream of code words to the output in response to the video data and the auxiliary data, wherein the code words include a first set of code words and a second set of code words, each of the code words in the first set determines a word of the video data, each of the code words in the second set determines a word of the auxiliary data, none of the code words in the second set is a member of the first set, and each of the code words in the second set is determined by a robust encoding algorithm.

131. (original) The transmitter of claim 130, wherein each of the code words in the first set is an in-band TMDS-encoded word, each of the code words in the second set is an out-of-band TMDS-encoded word.

132. (previously presented) A communication system, including:

a receiver;

a transmitter; and

a TMDS-like communication link between the transmitter and the receiver, wherein "TMDS" denotes "transition minimized differential signaling," the link comprises at least one video channel, the transmitter is configured to transmit video data and auxiliary data to the receiver over the video channel, each word of the video data is determined by a code word of a first set of code words, each word of the auxiliary data is determined by a code word of a second set of code words, none of the code words in the second set is a member of the first set, and the transmitter is configured to transmit a sequence of N identical code words of the second set to indicate each word of the auxiliary data, where N is an integer greater than one.

133. (original) The system of claim 132, wherein the receiver is configured to perform error correction on each said sequence of N identical code words.

134. (original) The system of claim 132, wherein each of the code words of the second set is an out-of band, TMDS-encoded word.

135. (original) The system of claim 134, wherein N is equal to three.

136. (original) The system of claim 134, wherein N is greater than two.

137. (original) The system of claim 132, wherein the transmitter is configured to transmit code words of the second set only during blanking intervals of the video data and to transmit code words of the first set only during active video periods between said blanking intervals.

138. (original) The system of claim 137, wherein N is equal to three, whereby each said sequence of N identical code words includes an initial code word, a middle code word following the initial code word, and a final code word following the middle code word.

139. (original) The system of claim 138, wherein the receiver is configured to perform error correction on each received sequence of N code words transmitted as a sequence of N identical code words, by replacing the middle code word of the received sequence with the initial code word of said received sequence when the initial word and the final word of said received sequence are identical but the middle code word is not identical to the initial code word, thereby generating corrected sequences.

140. (original) The system of claim 139, wherein the receiver is configured to identify transitions between the active video periods and following ones of the blanking intervals, and to identify the words of auxiliary data determined by the corrected sequences by selecting the first middle code word of the first one of the corrected sequences following each of the transitions, and selecting the final code word of each subsequent one of the corrected sequences occurring in the same one of the blanking intervals as does said first one of the corrected sequences.

141. (original) The system of claim 137, wherein the receiver is configured to identify transitions between the active video periods and following ones of the blanking intervals, and to identify the words of auxiliary data determined by each received sequence of code words transmitted as a sequence of N identical code words, by selecting the first middle code word of the first received sequence following each of the transitions and selecting the final code word of each subsequent received sequence occurring in the same one of the blanking intervals as does said first received sequence.

142. (previously presented) A transmitter for use in data transmission over a TMDS-like link, where "TMDS" denotes "transition minimized differential signaling," said transmitter including:

a video input for receiving video data;

an auxiliary data input for receiving auxiliary data;

an output configured to be coupled to a channel of the link; and

circuitry, coupled to the video input, the auxiliary data input and the output, and configured to assert a stream of code words to the output in response to the video data and the auxiliary data, wherein the code words include a first set of code words and a second set of code words, each of the code words in the first set determines a word of the video data, a sequence of N identical ones of the code words in the second set determines a word of the auxiliary data, N is an integer greater than one, and none of the code words in the second set is a member of the first set.

143. (original) The transmitter of claim 142, wherein the circuitry is configured to transmit code words of the second set only during blanking intervals of the video data and to transmit code words of the first set only during active video periods between said blanking intervals.